CLAIMS

What is claimed is:

1. A method for mapping a pseudo-random code sequence to a quadrature phase shift keying (QPSK) signal constellation, the method comprising:

(a) determining a first multi-bit number by dividing a parameter M by a parameter N, wherein M and N are integers and M is selected to be relatively prime to N;

(b) combining the first multi-bit number with a second multi-bit number to produce a resulting sum;

(c) extracting a first bit and a second bit from the resulting sum of step (b); and

(d) generating an I value and a Q value based on at least one of the first and second bits.

2. The method of claim 1 wherein the second multi-bit number is greater than the first multi-bit number by a factor of two.

3. The method of claim 1 wherein the I value is equal to one when the first bit is equal to zero.

4. The method of claim 1 wherein the I value is equal to negative one when the first bit is equal to one.

5. The method of claim 1 further comprising:

(e) setting the Q value to one by performing a logical function on the

first and second bits resulting in a value equal to zero.

6. The method of claim 1 further comprising:

(e) setting the Q value to negative one by performing a logical function on the first and second bits resulting in a value equal to one.

7. A method for mapping a pseudo-random code sequence to a quadrature phase shift keying (QPSK) signal constellation, the method comprising:

(a) storing initial parameters M and N in a memory, wherein M and N are integers and M is selected to be relatively prime to N;

(b) dividing the parameter M by the parameter N to produce a resulting quotient input;

(c) combining a first number equal to the resulting quotient with a second number to produce a resulting sum;

(d) extracting a first bit and a second bit from the resulting sum of step (c); and

(e) generating an I value and a Q value based on at least one of the first and second bits.

8. The method of claim 7 wherein the second number is greater than the first number by a factor of two.

9. The method of claim 7 wherein the I value is equal to one when the first bit is equal to zero.

10. The method of claim 7 wherein the I value is equal to negative one when the first bit is equal to one.

11. The method of claim 7 further comprising:

(f) setting the Q value to one by performing a logical function on the first and second bits resulting in a value equal to zero.

12. The method of claim 1 further comprising:

(f) setting the Q value to negative one by performing a logical function on the first and second bits resulting in a value equal to one.